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## THE PLOTTER

CLACKAMAS COUNTY AREA T/S  
USERS GROUP  
NEWS LETTER

\*\*\*\*\*  
VOLUME 5      \*\*      NUMBER 12  
\*\*\*\*\*  
DECEMBER 1987

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EDITED BY:                 DICK WAGNER  
CHAIRMAN:                 SYD WYNCOOP  
V/CHAIRMAN:               DICK WAGNER  
SECRETARY:                JACK ARMSTRONG  
TREASURER:                ROD GOWEN  
PR OFFICER:                BOB EVANS  
LIBRARIAN:                JAMES EDWARDS  
\*\*\*\*\*

## MEETING

The DECEMBER meeting will be:

on: FRI., DECEMBER 11, 1987

at: 7:30 P.M.

in: COMMUNITY ROOM

FAR WEST FEDERAL S & L

OREGON CITY SHOPPING CENTER

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## WHAT YOU WILL FIND IN THIS ISSUE

MEETINGS-----PAGE 1  
CHAIRMAN'S CORNER-----PAGE 1  
FROM THE EDITOR'S DESK----PAGE 2  
CONTINUED-----PAGE 4  
SECRETARY'S SECRETS-----PAGE 3  
PIXEL PRINT PRESS-----PAGE 3  
BITS & BYTES-----PAGE 4  
CONTINUED-----PAGE 6  
LARKEN LINES-----PAGE 5  
CONTINUED-----PAGE 6  
SATELLITE POSITIONS-----PAGE 7  
CONTINUED-----PAGE 8  
NOTICE-----PAGE 8  
AD/MEMBERSHIP RATES-----PAGE 8

## Chairman's Corner

\*\*\*\*\*  
W A R N I N G ! !  
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It is with much regret that I find it necessary to issue this warning.

We have proof of pirated software being sold by:

Sunset Electronics  
2254 Taraval Street  
San Francisco, Calif  
John Warburton

Be aware, you may not be purchasing legitimate copies of software from this dealer.

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Now, back to business. We had a lively session last evening. Excellent demonstrations and GREAT attendance!

You should be aware of the new leader elections (see the minutes in this issue). Please return the enclosed ballot. We did not have many of them returned last year.

Remember, the club can only reflect the views that are expressed by its members. If you don't vote, you have no right to complain!

Our MC SIG has embarked on a project to write a proper screen dump utility for a large printer. There are several programs on the market to accomplish this but, none of them seem to work as they should. We could use your input. What problems have you had and what capabilities would you like to see in such a program? Let me know.

That's enough rambling. I hope you had a good Thanksgiving and I wish you and all your family a very Merry Christmas!

Syd

## FROM THE EDITOR'S DESK

Election time! The enclosed ballot is for you to take advantage of your right to vote. So, you don't know these people because you haven't attended meetings for a long time? Call Rod Gowen or Syd Wyncoop to bring you up to date and also learn what your group has been doing (also learn why you should renew your membership).

The 3 members elected will be crucial to the continued functioning of our organization. All were nominated at the November meeting by members who really make up most of the nucleus of CCATS. These 6 were considered capable of handling the positions nominated for. Be sure and get your ballot in by mail before the December 15 deadline. Mail to the address on the ballot. Or be sure and bring your ballot to the December 11 meeting (you will be there, won't you?).

We continue to try and schedule our meetings for the second Friday of each month but don't always get that time. The policy of Far West Savings is to permit reserving only 2 months in advance. Due to New Year being the 1st Friday of January, other takers were ahead of me so our meeting will be on the 3rd Friday, January 14. Not so bad as it is still in the first half of the month. Put this date on your 1988 calender.

CCATS is fortunate that Rod Gowen will continue to be treasurer. He has handled our funds faithfully. This is a particularly difficult process as we are not a non-profit organization.

Your Editor will continue to produce this newsletter. We try to keep costs down but with the increase in mailing costs due in 1988, we just cannot absorb this increase. Members voted to make dues \$20.00 and the subscription price \$12.00 (ordered thru RMG Enterprises). Also, part of our cost is in exchange of newsletters. We hope the number will increase during the year as this is the source of much of our information.

It may surprise some that I find this job of Editor an interesting one for using my 2068 computer, disk drives, and Panasonic printer. My wife thinks it is an excessive demand on my time (maybe it is when I don't get some home jobs done on request) as it takes better than 15 hours from the time that I start article generation until about 50 copies are printed, folded, addressed, stamped and mailed. I think she places rather heavy emphasis on my "bitching" about lack of material from members.

There are several labor saving steps that do help. Pages 1 and 8 are saved on disk so I need only load the data into MSCRIPT, make revisions such as meeting date, volume #, etc, and make a copy of each on the printer. It takes a minimum of 2 hours to paste up 8 pages after all material is ready and all goes well. In the past I have printed the index at the time of printing page 1 but have switched with this edition to making a separate index. In this way I can better position material continued from this page.

Our logo and graphic chart date back to the early news letter days when we used the little ZX printer. The chart was made on this printer. The logo was designed by a friend of Dennis Jurries. I would like to get it into printer graphics to be more consistant with our computer/printer capabilities. As a starter, Bob Evans is working on this. Any other volunteers? After all, if you can't produce programs or articles for our newsletter maybe this is something you can contribute. If you do, please put your initials in the bottom right corner of the state, about where the town of Jordan is. What, you don't know where Jordan is?

We have a rather surprising subscriber to our newsletter. Joan Kealy is her name and she is located in El Paso, Texas. She subscribes to about 23 newsletters so she sure does her part. A good way to keep tabs on what is going on in our computer world. She mailed us the

# SECRETARY'S SECRETS

by Jack Armstrong

Chairman Syd Wyncoop called the November meeting to order at 7:45. A new face, Rob Magee, was introduced. Syd also commented on the new publication SAFEDISK TS-2068 UPDATE which comes from Bill Jones in Panama City in Florida. Under Old Business, Dick Wagner asked for material to insert in the Plotter. He has recently received some info from Joan Kealy in Texas. He also wants our Logo to be generated in a program so that he can use it in the Plotter. Syd noted that the new advertiser from E.A. Brown has been received; it's mostly Atari and PC oriented now, but there is still a page devoted to Timex. D. Lewis asked for a definition of a scanner as opposed to an OCR device and this generated a lively discussion. Rod informed the group about an article in Compuserve mag ONLINE, which mentioned CCATS. The discussion following involved Betty, Mike, Rod and Tim and comments about a board for the PC enabling it to simulate a QL! D. Lewis made mention of the CPM club meeting and also mentioned the swapmeet where he got a hard disc for \$35. D. also brought up the fact that he is going to take classes in the operation of video equipment through cable channel 38: Columbia. He wanted to know if our group is interested in producing a video program for cable broadcast on Public Access time. A general discussion followed. There was intense interest and the subject will be pursued at our next meeting. The club would need to choose a program project, organize a committee to do the work and start on the project. Under Old business, Ed Fry is to get the contact address and/or phone to start on planning for next year's Computer Fair which CCATS is hosting and Don Malm suggested that we call it the 3rd Annual "International" Computer Fair since Canada is represented. Under New Business, nominations for next year's officers were opened. Ed Fry and Mike Carver are nominated for Chairman. Bill Rich and Bill Dunlop were named for Vice-Chairman. Jack Armstrong and Ken

Lutes were chosen to run for Secretary. Members are to mail their ballots to Rod or bring them to the December meeting. A motion was made by Merlin to raise dues to \$20 to meet the expenses of the club after Rod outlined the needs we will face next year. The motion passed with amendments to make the dues payable in installments: \$10 by the January meeting and the balance by the March meeting. Tim Woods gave information about Sir Clive Sinclair's newest product: the Z88 available from Cambridge Computer for about \$500. It runs on the old favorite: the Z80 chip. It is a laptop portable with a membrane keyboard similar to the File-60. It is 32K and has built in programs including a word processor and a data-base and runs on 4 AA batteries. The LCD display is ten lines and there are expansion slots and provision to burn its own EPROM cartridges. Ken Lutes demonstrated the club's EPROM burner which he has been using. It was reported that the Larken interface may have a faulty diode and a fix was published in the Sinclink newsletter in our library. The meeting adjourned at 9:30.

## PIXEL PRINT PRESS

At press time I received a newsletter called PIXEL PRINT PRESS published by Lemke Software Development, 2144 White Oak, Wichita, KS 67207. This is Vol. 1, No. 1, 6 pages in length. Stan Lemke and Bill Ferrebee have teamed up to produce this quarterly. Price--just send 4 SAS business size envelopes and they will do the rest. As this publication caters to their software it will carry tips, suggestions, user input, and their new products.

Lempke and Ferrebee have been working hard on their desktop printing on the 2068 and have some software to do the job. Tasword II is the WP used and Pixel Print files are dumped to it. Pixel Print has been expanded with Icon Package to provide a library of 102 icons (a promise of more), Pixel Sketch and Graphic Editor adds many sketching capabilities, and Font Package, Font Packages #3 and 2 provide a total of 18 fonts plus some border designs. The first 5 are programs while the last is data only. Check with RMG Enterprises or S.D. Lemke for prices and availability.



## BITS & BYTES

by: ROD GOWEN

Heard any TS related news lately? Did you get any information in the mail from other users, user groups, or vendors that may be of interest to our readers? If so, why not share it with us? We need all of the help that we can get. Please send any info that you might have to: Rod Gowen, C/O CCAT/S, 1419 1/2 7th Street, Oregon City, OR 97045, or, phone in at: 503/655-7484, 10 AM- 10 PM weekdays. I know that the entire user group will appreciate it!

THE GREAT NW TS MINI-FAIR-for 1988 is in the works!! At the last CCAT/S meeting, there was considerable talk of the upcoming event. At this point it appears that CCAT/S-PATS will be the sponsoring group. It will again be co-sponsored by TIME DESIGNS MAGAZINE and RMG ENTERPRISES. It is tentatively scheduled to take place in Portland, Oregon. The discussion was VERY active on the subject. We are hoping, as the proposed WEST FEST in the Bay area has been scrapped, that this can be the major west coast event of 1988 for all Sinclair users. The possibility of a 2 day event was discussed as well as inviting all those interested parties from California and Canada. The timing was also discussed and it is definitely the consensus that it be held before school starts, probably in mid-August. If you have any comments or ideas, we would sure like to hear from you. We had about 180 people at the Seattle Mini-Fair, it would be great if we could double or even triple that next year.

WEST FEST '88-having been cancelled, there was some discussion at our last meeting about the possibility of expanding THE 3RD ANNUAL GREAT NW T/S MINI-FAIR to 2 days and open it up to the entire west coast. (It has always been open to all!) If any of you, our readers, would care to comment on this idea, PLEASE-let us know ASAP! If we are to expand it, we must begin plans at once! Personally, I think that it is a GREAT idea!

A SPECIAL REQUEST-was received from ROD HUMPHREYS of the Vancouver, B.C. group. His request was a simple one, so I will fulfill it here. He is trying to locate a used MEMOTECH PARALLEL PRINTER 1/F for the ZX81/1000. If you have one mouldering in the closet, please drop him a note at: ROD HUMPHREYS

2006 HIGHVIEW PLACE  
PORT MOODY, B. C.  
CANADA V3H 1N5

CHRISTMAS IS HERE-and I want to wish all of our loyal readers a very merry one as well as a prosperous and happy 1988. Be sure to check out the current - NOV/DEC - issue of TDM for all of your TS needs for Xmas. I am sure that all of the active dealers will be advertising in it!

TS 2068 UP-DATE-the new magazine from Bill Jones in Panama City, FL, is a great new magazine for ALL TS 1068 users! It was originally titled SAFE UP-DATE, but Bill thought that, as he was endeavoring to support all of the various disk systems as well as the 2068, the SAFE (designating the OLIGER system) would limit its appeal. He is right! We want all users to subscribe because he is going to support the 2068 and ALL disk systems. He has asked permission to reprint our own LARKEN LINES in his mag. We have given him the right to do so. WE hope that all of his readers can make use of the information. To subscribe:

Send \$12.00 for 4 issues (1 year)  
To: TS 2068 UP-DATE  
1317 STRATFORD AVENUE  
PANAMA CITY, FL 32404

ELECTIONS-are this month. You will find your official ballot in this issue of THE PLOTTER. PLEASE- be sure to fill it in and return it by mail or bring it to the December meeting. Remember, if you are a paid member of CCAT/S, you have the right to cast 1 vote. As you will see on the ballot, almost all of the names are new to the ballot this year. The only repeats are the volunteer officers and the Treasur. Make your choices and get it in by 12/15/87.

## LARKEN LINES

by: ROD GOWEN

#3!! RIGHT!! I have received some feedback! I have received some ideas for columns! I am very grateful, as I am sure all of the Larken users who read this column! I now know that some readers do care if this column continues. My warning: "IF I FAIL TO GET ENOUGH INPUT (TIPS, HINTS AND IDEAS FOR COLUMNS) FROM YOU, THE READERS, IT WILL CEASE AS QUICKLY AS IT IS BEGINNING!" still stands as I cannot do it all myself, not knowing what YOU, the users, need help with. Keep those tips and hints coming!

First, a couple of notes from LARKEN. Larry Kenny tells us that there are a couple of small "bugs" in his DOS. The first is just the fact that his system is incompatible with the TASMAN printer I/F. The second may already have been noticed by some users if you have SAVED a SCREEN\$ and LOADED it back in. The DOS LOADs it back to address 50000d unless you LOAD it back as code to address 16384. So, if you SAVE "name.C1"SCREEN\$ you must LOAD "name.C1"CODE 16384. He says he will correct it when he does a new version of LKDOS.

The ideas for columns that I did receive since I last visited with you were mostly based on what they felt were drawbacks built into the original Larken programs. In fact, the most common complaint was in regard to the FORMAT program.

If you will recall, in that program, as Larry Kenny wrote it, you were asked a series of questions before the actual formatting took place. This month I am going to discuss a few changes to that program. (Note: I am starting out with the latest version of Larken's FORMAT program which was sent out after 10/87) If you have an earlier version, I will be glad to issue you a new copy for the cost of the disk and the postage. Or, send me a blank

disk and either a pre-addressed and stamped disk mailer or \$2 to cover postage and a mailer, and I will get a new copy right back to you. Send it to me at the address listed on the back of this newsletter. Now, on to the changes.

First, I wanted to add a couple of other choices to the menu. I felt that a CATalog function was a necessity in order to know what was on the disk that you were about to either FORMAT or COPY. Then, as you may have found, I found it a bit of a hassle to BREAK to BASIC, so I added a menu

choice that stops the program. The other changes that needed to be made were purely cosmetic. EXCEPT for the change I made to the actual FORMAT portion of the program. I felt, as did the other people who gave me their ideas this month, that the choice of "HEAD SPEED" was a waste of time, as there are VERY FEW drives that require the slower speed options given to you here. The 6ms speed is the most common one used today, so I set up the program, using a few REM statement inserters and 1 LET statement, to automatically POKE the value for that head speed and skip over the input for that option. Those changes are found in LINES 780-900 in the following listing.

Lines 30-150 contained the Menu and there are quite a few changes here to move the graphic disk as well as add the extra options to the Menu. I notice that I duplicated Line 100 when I copied the screen, so just ignore the 2nd Line 100.

Lines 4000-4060 are the additional lines needed for the CATalog function. They are all new lines, so there are no old lines to modify.

I realize that these are not the only changes that would make this program easier to use, but, they are the main ones that I needed and that others have told me that they would like to see made. I hope that they help some of you.

The other comment that was made concerned the early, early version of the FORMAT program for the OLIGER system. It seems that the only drive that it would allow you to format in was drive 0. I now have the updated version of that program as well and the same offer as above applies to ALL versions, LARKEN, OLIGER, RAMEX and AERCO. Have you looked at the EXTENDED BASIC COMMAND DEMO PROGRAM that came with your system? If so, and,

if you are like me, the built in delay between screen changes was far too short! I made a minor change to this program as well. I went into the Basic and changed all of the PAUSEs to PAUSE 0s and now the screens stay put until I press a key. I thank BILL RICH for bringing this one to my attention, as I had already done it but had not thought it worth a mention until he mentioned it to me. THIS IS WHAT I WANT! Reader input!

```
30>: CIRCLE 200,115,10: CIRCLE
219,106,2
40 PLOT 180,90: DRAW 0,55: DRA
W 55,0: DRAW 0,-55: DRAW -55,0
50 PLOT 200,90: PRINT #4: DRAW
5,14,1
60 PRINT #4: CIRCLE 220,130,2
PRINT #4: CIRCLE 182,110,2: PR
INT #4: CIRCLE 216,107,2: PRINT
#4: CIRCLE 182,100,2
70 PLOT 232,128: PRINT #4: DRA
W 6,5,0: PLOT 232,129: PRINT #4:
DRAW 3,3,0
75 PRINT AT 4,20:"LARKEN"
80 PRINT AT 6,0:"Select One"
90 PRINT AT 10,0:"1. Format a
New Disk";AT 12,0:"2. Copy Entire
Disk";AT 14,0:"3. Save FORMAT
to Formatted Disk";AT 16,0:"4. C
atalog a Disk";AT 18,0:"5. Quit
to Basic"
100 INPUT "Menu Choice? (1,2,3,
4 or 5): "; LINE a$:
110 IF a$="3" THEN GO TO 1040
115 IF a$="4" THEN GO TO 4000
120 IF a$="1" THEN GO TO 160
125 IF a$="5" THEN STOP
130 IF a$="2" THEN GO TO 360
140 GO TO 100
150 STOP
160: CLS: PRINT "FORMAT PROGRA
M for LARKEN-AERCO"
170 PRINT: PRINT " "; FLA
SH 1; "Enter Disk Name"
175 PRINT "Press STOP (55 'A')
to end name": PRINT
180 PRINT "Disk Name: ";
190 LET m=41000
200 LET a$=INKEY$: IF INKEY$=""
THEN GO TO 200
210 IF CODE a$=0 THEN GO TO 200
220 BEEP .02,1
230 IF CODE a$=12 THEN PRINT CH
```

```
780 REM ** DRIVE PARAMETERS **
790 INPUT "Drive 0 to 3? ";dv
800 IF dv>3 THEN GO TO 790
810 PRINT #4: GO TO dv
820 POKE 43301,21dv
830 POKE 43312,0: REM 6=0 12=1
20=2 30=3
840 REM INPUT "Head speed 6 12
20 30 MS? ";h
850 REM IF h=6 OR h=12 OR h=20
OR h=30 THEN GO TO 870
860 GO TO 840
870 REM IF h=6 THEN LET a=0
880 REM IF h=12 THEN LET a=1
890 REM IF h=20 THEN LET a=2
900 REM IF h=30 THEN LET a=3
910 LET a=0: POKE 43312,a
920 INPUT "Number of Sides: 1 o
r 2 ";a
930 IF a=1 THEN GO TO 960
940 IF a=2 THEN GO TO 960
950 GO TO 920
4000>CLS
4010 INPUT "Catalog for? Which
drive? (0,1,2 or 3) ";d
4020 PRINT #4: GO TO d
4030 PRINT #4: CAT " "
4040 INPUT "More? (Y/N) ";m$
4050 IF m$="Y" OR m$="y" THEN GO
TO 4000
4060 GO TO 20
```

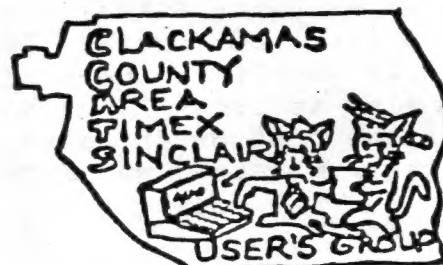
Continued from page 2

program on satellite locating that was provided by E. Allen Brown of Laurel, Maryland. Joan has bits of information in her letter that will come in handy for news items in the future. Many thank's Joan. If anyone wants her address get in touch with me and maybe she will send you a letter printed on her sideways 2040 printer. I have known this printing can be done but it is the first time I have seen it.

Continued from page 4

TIMEX-of Portugal is due to cease production of all computer products as of the end of this year. If anyone wants to buy any new genuine Timex products, you have a VERY short time to get in touch with them and see what they can offer.

So much for another issue! I hope that you have found something to interest you in my column. I will be back with more for you next time!





```

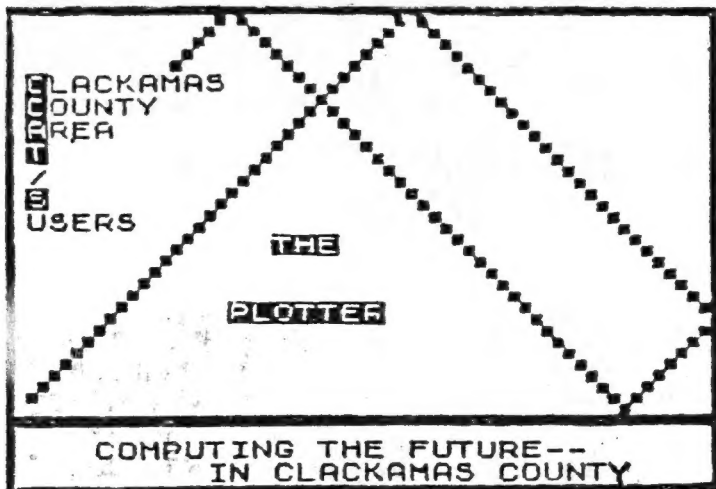
1 POKE 23609,50: REM AUTHOR--
E. Allen Brown, WAFYZ, 8645 TOWE
R DRIVE, LAUREL, MD. 20707
2 REM U.3.L revised 8/24/87:
1984 TS1000 version published 02
X, Las Cruces, NM
3 BORDER 1: PAPER 5: BEEP .05
-10: BEEP .05,0: BEEP .05,10: B
EEP .5,40
4 FOR f=1 TO 704: PRINT "*";:
NEXT f: FLASH 1: INK 1: PRINT A
T 5,8;"S A T E L L I T E": PRINT
AT 15,8;"P O S I T I O N S": PA
USE 180: FLASH 0: CLS
6 LET TS=0
8 LET C=0
25 PRINT AT 4,0;"GIVEN THE WES
T LONGITUDE AND NORTH LATITUD
E OF A PARTICULAR EARTH STATION
THIS PROGRAM WILL COMPUTE
THE AZIMUTH (BEARING) AND
ELEVATION ANGLE TO ORIENT AN
ANTENNA WITH A NAR-RROW BEAM WIDT
H TO RECEIVE ANY OF THE LISTED
GEOSYNCHRONOUS SATELLITES."
26 PRINT AT 17,5;"TO BEGIN--PR
ESS ANY KEY EXCEPT <BREA
K>"
30 PAUSE 0: CLS
80 DIM A(21)
90 DIM A$(21,20)
110 LET A$(1)="AURORA "
120 LET A(1)=143
130 LET A$(2)="ANIK D2"
140 LET A(2)=110.5
150 LET A$(3)="GALAXY 1"
160 LET A(3)=134
170 LET A$(4)="ANIK D"
180 LET A(4)=104.5
190 LET A$(5)="MORELOS 1"
200 LET A(5)=113.5
210 LET A$(6)="ASC I"
220 LET A(6)=128
230 LET A$(7)="GALAXY 3"
240 LET A(7)=93.5
250 LET A$(8)="TELSTAR 302"
260 LET A(8)=87
270 LET A$(9)="SPACENET 1"
280 LET A(9)=120
290 LET A$(10)="GALAXY 2"
300 LET A(10)=74
310 LET A$(11)="SATCOM F1R"
320 LET A(11)=139
330 LET A$(12)="SATCOM F3R"
340 LET A(12)=72
350 LET A$(13)="SATCOM 3R"
360 LET A(13)=131
370 LET A$(14)="SPACENET 2"
380 LET A(14)=69
390 LET A$(15)="SATCOM F4"
400 LET A(15)=83
410 LET A$(16)="TELSTAR 301"
420 LET A(16)=96
430 LET A$(17)="WESTAR 4"
440 LET A(17)=99
450 LET A$(18)="WESTAR 2"
460 LET A(18)=79
470 LET A$(19)="WESTAR 3"
480 LET A(19)=91
490 LET A$(20)="WESTAR 5"
500 LET A(20)=122.5
510 LET A$(21)="TELSTAR 303"
520 LET A(21)=125
590 FOR N=1 TO 21
600 PRINT AT N-1,0;N;TAB 3;A$(N
);AT N-1,23;A(N);" W";
610 NEXT N
650 INPUT "SELECT THE DESIRED S
ATELLITE (1-21)";S
660 IF S>21 OR S<1 THEN GO TO 6
50
680 LET SAT=A(S)*PI/180
690 LET Z#=A$(S)
700 CLS

```

```

1000 INPUT "YOUR DEGREES LATITUD
E NORTH OF THE EQUATOR? (IF THE
LATITUDE AND LONGITUDE ARE TH
E SAME AS IN PREVIOUS COMPUTAT
ION, ENTER 100)";DEGLAT
1060 IF DEGLAT=100 THEN GO TO 20
00
1070 LET D1=DEGLAT
1080 PRINT D1;" DEGREES ";
1090 INPUT "MINUTES?";M1: PRINT
M1;" MINUTES ";: INPUT "SECONDS
?";S1: PRINT S1;" SECONDS "
1100 PAUSE 180
1150 LET K1=ABS (D1)+(M1/60)+(S1
/3600)
1160 LET LAT=K1*PI/180
1170 IF LAT=0 THEN LET LAT=0.000
0001
1180 CLS
1190 INPUT "ENTER YOUR LONGITUDE
WEST OF THE PRIME MERIDIAN--DEGR
EESE?";D2: PRINT "DEGREES ";D2;:
INPUT " MINUTES?";M2: PRINT
MIN. ";M2: INPUT "SECONDS?";S
2: PRINT " SEC. ";S2
2000 LET K2=ABS (D2)+(M2/60)+(S2
/3600)
2010 LET LONG=K2*PI/180
2030 LET Z=ABS (SAT-LONG)
2040 IF Z=0 THEN LET Z=0.0000001
2050 IF Z>PI THEN LET Z=ABS (2*P
I-Z)
2060 LET D=COS LAT*COS Z
2070 LET D=-ATN (D/SQR (-D*D+1))
+PI/2
2080 LET J=((-SIN (LAT))*(COS D)
/(COS (LAT)*SIN D))
2090 REM 1 RAD=57.29577951 DEG.
2100 LET AZ=(-ATN (J/SQR (-J*J+1
))+PI/2)*57.29577951
2110 IF AZ>LONG AND AZ<(PI+LONG)
OR AZ>(2*PI+LONG) THEN LET AZ=3
60-AZ
2120 LET E=(PI/2-(ATN (26203.8*5
IN D/(26203.8*COS D-3958.75))))*
57.29577951
2130 LET E=INT (E*100)/100
2140 LET AZ=INT (AZ*100)/100
2150 CLS
2155 IF C>0 THEN GO TO 2220
2160 PRINT "STATION LOCATION: "
2170 PRINT
2180 PRINT D1;" DEG ";M1;" MIN "
;S1;" SEC N LAT BY"
2190 PRINT
2200 PRINT D2;" DEG ";M2;" MIN "
;S2;" SEC W LONG"
2210 PRINT : POKE 23692,255
2220 POKE 23692,255: PRINT "SATE
LLITE ";Z#
2230 PRINT
2240 IF D>=1.418952682 THEN GO T
O 2370
2241 REM 1.418952682RD=81.3 DEG
2250 PRINT
2260 PRINT "AZIMUTH: ";AZ;" DEG
TRUE"
2270 PRINT
2280 PRINT
2290 PRINT "ELEVATION: ";E;" DEG
"
2312 IF TS=2040 THEN GO SUB 4050
2315 INPUT "ALTERNATIVE 1: COMPU
TE ANOTHER STATION AND/OR SATEL
LITE; ALTER-NATIVE 2: (IF TS2040
PRINTER CONNECTED) PRINT OUT
A COPY FOR THIS STATION LOCATIO
N AND ALL THE SATELLITES. 1 OR
2?";Q
2320 IF Q=1 THEN GO SUB 2440
2325 IF Q=2 THEN GO SUB 4000
2340 CLS
2350 GO TO 50
2360 PRINT

```



```

2370 PRINT "CANNOT BE RECEIVED B
ECAUSE IT IS BELOW THE HORIZON
"
2400 GO SUB 2440
2410 PAUSE 0
2420 CLS
2430 GO TO 50
2440 PRINT AT 20,0;"TO COMPUTE A
NOTHER, PRESS ANY KEY EXCEPT <
BREAK>."
2450 RETURN
4000 REM SUBROUTINE TO PRINT DAT
A FOR ALL 21 SATELLITES RELATIVE
TO SINGLE STATION
4010 FOR S=1 TO 21: LET SAT=A(S)
*PI/180: LET Z#=A$(S): LET TS=20
40: GO SUB 2000
4040 POKE 23692,255
4050 COPY : LET C=C+1: NEXT S: P
OKE 23692,255
9997 STOP
9998 CLEAR : SAVE "SATELITE" LIN
E 1

```

**SATELLITE:** ANIK D

**AZIMUTH:** 183.75 DEG TRUE

**ELEVATION:** 52.96 DEG

## WANTED!

If any of our readers have, in the past year, purchased any of the following titles of software from SUNSET ELECTRONICS in San Fran., CA PLEASE send me a note with your name, address and phone number.

THE TITLES ARE:

THE TRACER - THE KRUNCHER

KRUNCHER 1000 - SOUNDESIGN

SCREENDESIGN - MUSIC DESIGN 2000

Send info to: ROD GOWEN in care of THE PLOTTER. This is of major importance to all TS software producers. THANK YOU VERY MUCH

## SUBSCRIPTION RATES

FREE SUBSCRIPTION WITH PAID  
CCAT/S MEMBERSHIP-\$15.00/YR

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## CCAT/S

1419 1/2 7TH Street  
Oregon City, OR 97045

-8-

(place label here)  
ROD GOWEN (TREASURER)  
1419 1/2 7TH STREET  
OREGON CITY, OR 97045  
A0003:12<87/ML